

# First Transatlantic Flight Now Seems to Be a Certainty

This is the second of a series of articles giving facts heretofore withheld concerning the achievements of aviation during the war and forecasting the development of the airplane in peace. The series will form a complete picture of the scientific and economic progress of the art of flying. The author has had exceptional opportunities for gathering the information on which these articles are based.

By AGNES C. LAUT.  
NOW that the war is over and the veil of secrecy is to be lifted from the airplane work done for army and navy, one of the biggest surprises coming to the American public will be to learn how close we have come to crossing the Atlantic by air route.

I said "we," please note—how close American aviation has come to solving the problem of crossing the Atlantic in less time than it now takes to go by train to St. Louis and with as great safety. I am not predicting what is going to be done. I am stating what has been done, and to those familiar with airplane progress during the war it has been a matter of great regret that while every accomplishment of big foreign machines has been flaunted to the world's eye as a great achievement, the greater achievements of American built machines have been hidden by the censorship.

Yet American invention gave the world the first machine. In a preliminary article I referred guardedly to an aircraft for the sea which could carry from ten to twenty passengers and a cargo of 22,000 pounds. I might have said "could carry fifty passengers" and described the tonnage as one-fourth that of those little planes with which early navigators crossed the Atlantic and polar explorers of the fifteenth, sixteenth and seventeenth centuries attempted to discover a Northwest passage. That gives you an idea of exaggeration where we are in air discovery.

As to flight or plane, we are on the verge of an age of air discovery similar to the fifteenth century on land and sea. As to engine power, we have surpassed anything the world has ever known. The present great problem is to construct a craft to withstand the vibrations of that great power without adding so much weight to the airplane that long and high flight will become impeded.

Does this sound incredible? Ask a really long distance flier what he thinks. He will tell you he would rather attempt to cross the Atlantic than the Rocky Mountains. Air above high mountains is full of pockets and cross currents and whirlpools and catenets and just plain holes.

You never know when you are due to take a terrific tumble or plunge, and if controls go out of whack, still less do you know whether you are going to land on a mountain

## American Designed and Built Machine Soon May Realize Dream of Aviators—Great Progress Due to War

even laid out a plan by which great floating rafts or mother ships of 15,000 tons should be stationed in the ocean at intervals of 1,200 miles in order that the fast ocean fliers could refuel. Here were to be life saving crews and fuel tanks and repair devices and all the rest. Another device was to have supply ships strung across the Atlantic at intervals of 150 miles for safety's sake. That was but yesterday. I think it was planned about last June.

To-day, what? We have an aircraft that will carry fifty passengers. It will carry fuel for a continuous flight of thirty-five hours. It will run at a speed of 160 miles an hour. But make allowances for adverse winds and the occasions when to escape a hurricane or fog the fliers must detour either vertically by going high up or laterally by sheering south out of Newfoundland's gray brown fog banks, and just the average speed for this great aircraft at 100 miles an hour.

Now take a compass and measure the distance across Atlantic or Pacific. How close do you think invention is to crossing the Atlantic by air flight?

We know in a vague sort of way that one big English machine and another big Italian machine under stress of war had made flights of twenty-four hours—number of stops not revealed to the public; but did we know that American invention in the same period had again and again accomplished 600 mile non-stop flights and was only awaiting the end of the war to essay a 3,000 mile non-stop flight? Let us laud the Handley-Page and the Caproni, or

the flying boat of the smaller models used in the war the boat's body is below the wings.

We all know in a vague way of the hydroplanes and flying boats of a wing span of from 53 to 45 feet and a body length of from 25 to 30 feet, which had a sustained flight record of 600 miles; but to learn of a giant craft of from 90 to 133 feet wing span, a length of body of from 46 to 50 feet, and possibilities of sustained flight of 3,000 miles. I purposely leave the dimensions of wing span and length of body indefinite because while I crawled all around one of these things I saw the framework of a monster which is to have a wing span of over 133 feet and a body close to 50 feet long. The horsepower of this air bird was 1,200. And all this began less than ten years ago, when Glenn Curtiss took his first flop from land to battleship and from battleship back to land out at San Diego.

Some seven or eight years ago I took a canoe trip from Edmonton to Lake Winnipeg, some 1,100 miles in all, and ran the second worst rapids that can be run in America, down at Grand Rapids, Lake Winnipeg. I believe boatmen regard Athabasca Rapids as worse to come through. Anyhow, these were hard enough, especially the last leap of nine miles past rocks the size of a house, where the rivers of half a continent converge to a canyon a mile and a half wide.

We used a Klondike canoe and had two expert rapids men, one an Indian



from the Hudson's Bay Company, one the head man from Revillon's Northwest brigades. That canoe with our own weight and dunnage took a ton. You could stand on the gun! and not rock it. You could slip a steamer trunk athwart under the thwart. At a pinch it could have carried twenty-two people—two abreast for every two feet of its length.

It felt to me much safer than any row boat or raft I have ever been in. After counting twenty-two rapids we lost count of the rapids run. With proper handling I felt safer in those rapids than I often feel in New York streets in a taxicab when the wheels skid on greasy pavements or pedestrians dodge in front.

Yet here is a flying boat to run the rapids of the air, to course the seas, or course the clouds, or leave both thousands of feet below, which is twice the size of that Klondike canoe, broad enough inside for four men to stand abreast, long enough to carry fifty passengers with ease, deep enough for a man to stand upright and not touch the ceiling of what look like mica windows, but are really made of an altogether different substance, neither glass nor mica, and which can carry eleven times the weight of that Klondike canoe.

I have done some mountain climbing in an amateur way for the pleasure of it, not for records, though I have never to my knowledge gone above 12,000 or 14,000 feet, which record climbers would sneer at; and when I saw the giant flying boat I began to grasp what climbing mountains and running rapids and canoeing a thousand miles all on wings would feel like. If you know the game it is safer than the city streets.

And what do you get out of it? Ask the mountain lover what he gets out of it. "The light that never was on land or sea." Champagne that never came from any vintage of the grape. A color pageant that pigments never painted. A lift to the soul that beggars any other inspirational thing I have ever known.

I know now why all prophets of all religious faiths have come out of the desert, where they got their first conception of Oneness in the unbroken ring of the horizon. I know also why all peoples of all races, when deeply moved by sorrow or joy, have left the confines of temple walls and gone up to worship God on high places. All the young aces of the aviation army have confessed to this feeling of solitude, of prayer, of inspiration, when at great altitude in flight. All mountain climbers know the same feeling of exaltation and clear vision and enfranchisement of the human spirit from earthly care when they have scaled the heights of the loftiest peaks.

That is the real lure of the mountain madness. It is for something similar to this that I look for the human race in this our new century of conquering the air. When Columbus discovered the new world the whole human race took a leap forward in freedom and progress a thousand years. The discovery of a new world opened new vistas of freedom for the human soul.

Imagination burst all shackles. The best literature of the world broke in an effluence never known before or since. It was the crest of one of the great tidal waves carrying humanity to a new era. Remember the world passed through a lot of tribulation, a lot of bloodshed in that progress also, but the human race leaped forward a thousand years when Columbus discovered a new world.

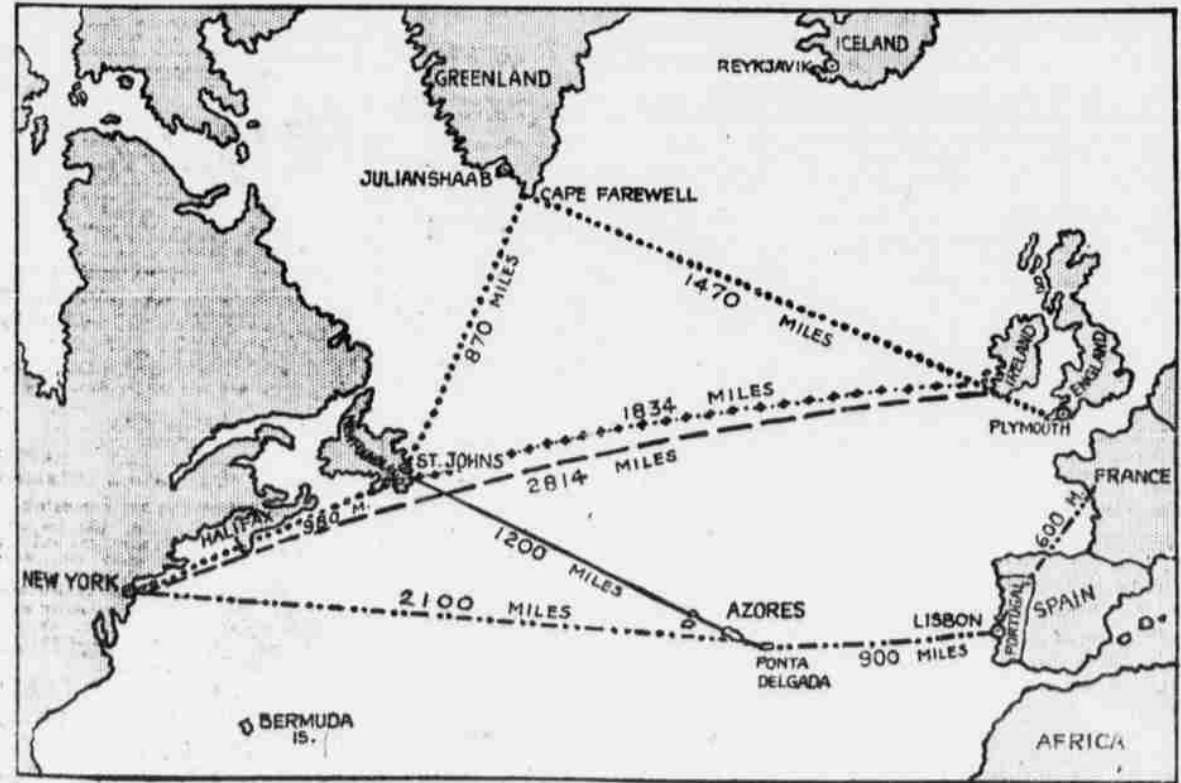
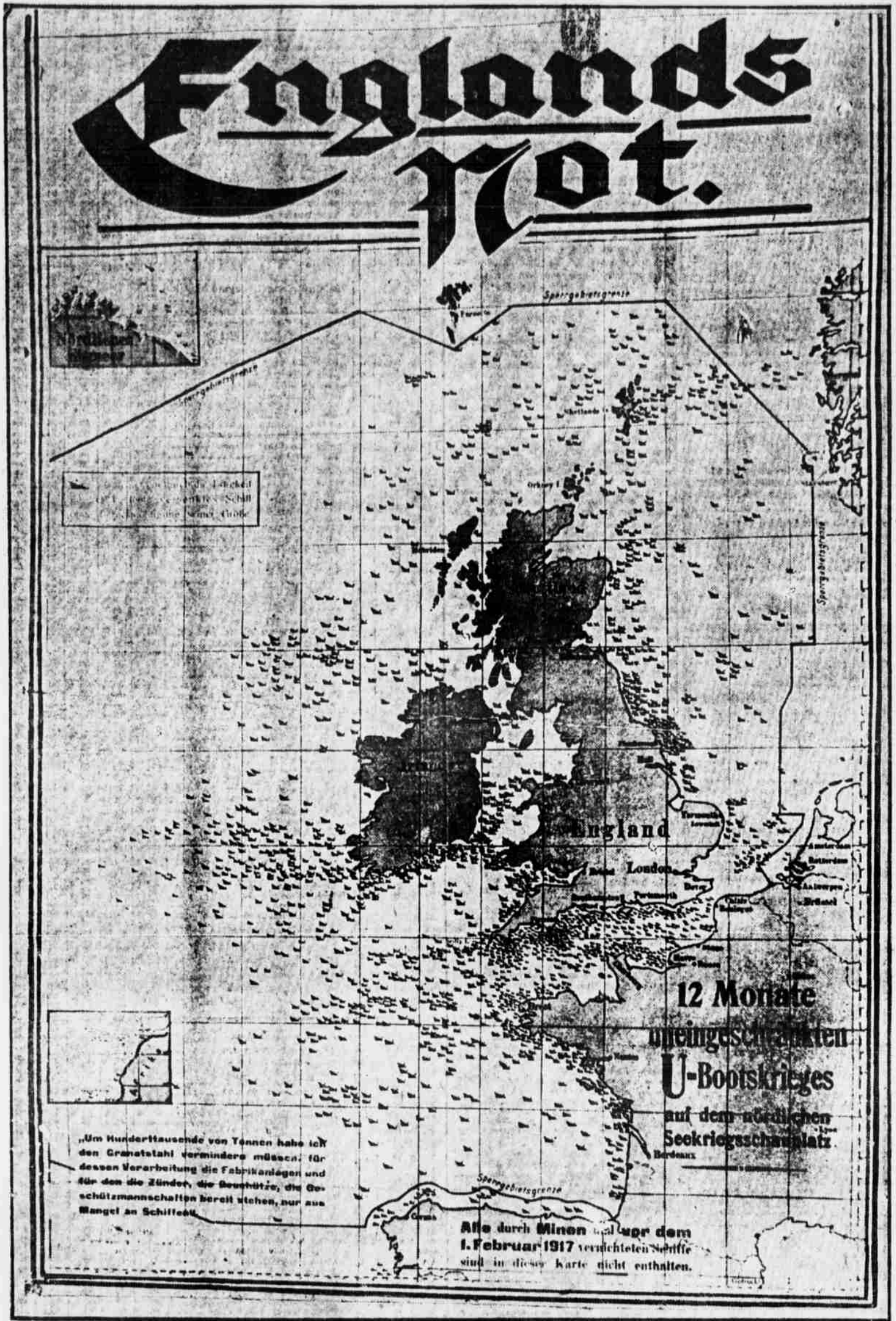
I should be sorry to think the human race had gone through the last four years of hell for nothing more than an intoxicated jubilation or material victories. And it seems to me this conquest of the air, this discovery of an aerial world, is ushering in a new era for the human race, just as the discovery of a new world did those old centuries ago; only our writers and artists haven't embodied the new spiritual concept yet in a form articulate for us common landlubbers and foot sloggers. At least if I thought the world could go through four such years of hell as it has suffered, and then come out none the better except for a drunken jubilee of victory I should ask Glenn Curtiss to send me up and keep me going up till I reached Mars or dissolved in nothingness from lack of air pressure.

In order to prove that I am not rhapsodizing and to get our feet down to earth again I want to quote the words of one of the world's greatest scientific aeronautical engineers. I am not going to give his name, though he invented one of the highest, fastest monoplanes ever devised—another of those plagued step softly military secrets. I am not going to give his name because he would not stand sponsor for any guesses as to the future.

He is a mathematician. He is also an engineer. He is also a horribly big bug—almost a June beetle—in the United States Army. Well, here is what he says, so guarded you have to get a gimlet to bore down to what he means: "Structurally, the air boat type can be built stronger for the same weight than a hydro or pontoon airplane. The seaplane will become huge in size. It is freely predicted that a large machine of this type will soon cross the Atlantic."

Hardly needs telling that aerial armadas of this sort have overcome all sorts of structural difficulties. There was first the engine needing great power and light weight. Three

# Huns' Boasting U-Boat Victory Claims May Cost Them Dearly at Peace Table

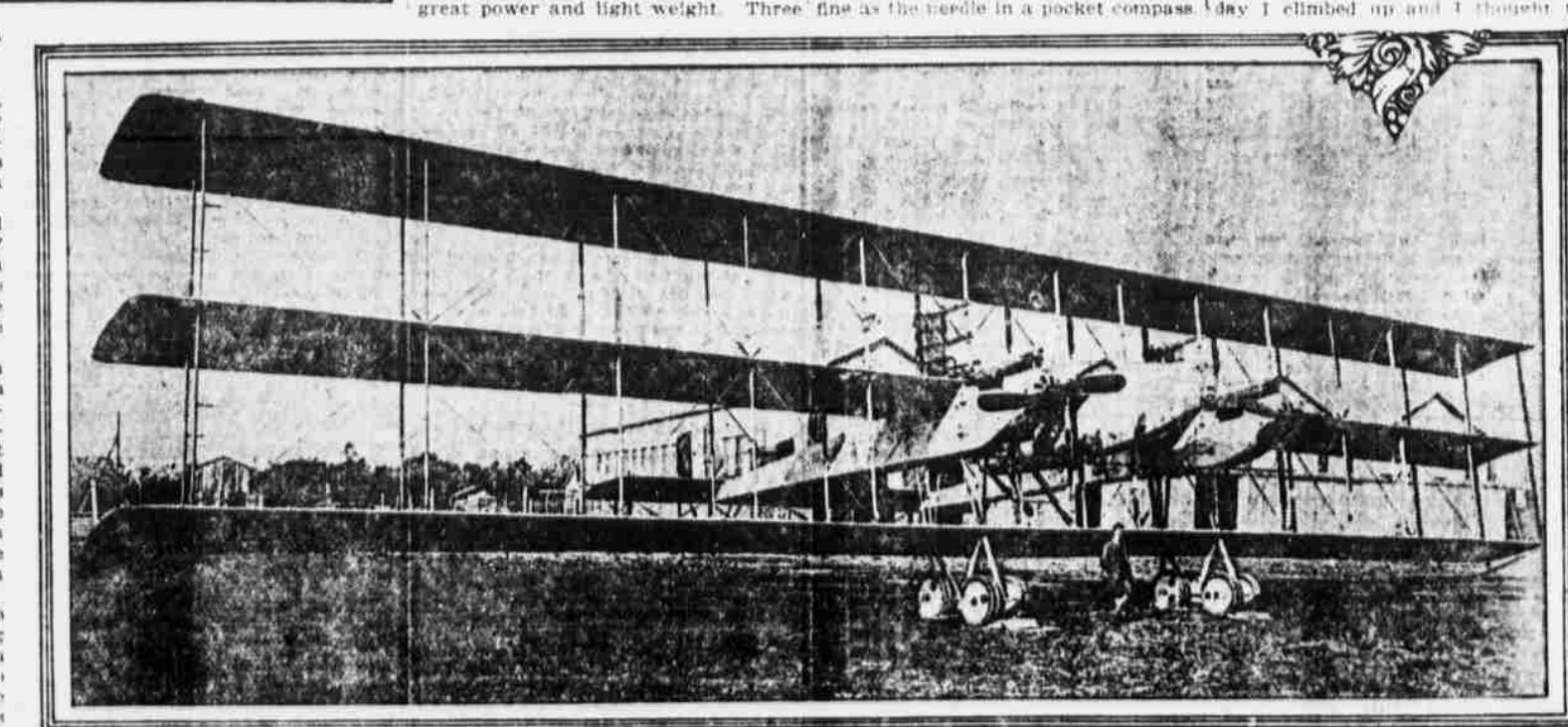


Above—Testing airplane motors before reinstalling them in planes—Map showing possible overseas airplane routes.

peak, a precipice or a forest top. Whereas the air above the sea is stable, and even if you have to fly high to mount above the dense gray fogs, even if you do take a tumble, the worst you will get is a terrific spunk; for water lets hard. When you hit it hard, but forms of resistance can ward off the force of the blow, though you may scatter spray enough to resemble the prow of a destroyer.

We are on the verge, not of "a navy that flies" but of an armada of aerial machines that will belt the world with the ease and swiftness of seagulls. But yesterday we were proving that it ever we did succeed in crossing the Atlantic by air to win that \$50,000 trophy which is offered, we would have to do it in a succession of 1,200 mile hops for refueling—from New York to St. John's, Newfoundland; from Newfoundland to Greenland; from Greenland to England; or from New York to the Azores, the Azores to Portugal and Portugal to France, or some such route, where landing fields would be established with fuel supplies, extra parts and mechanics for quick repairs.

One of the greatest naval authorities on ocean aeronautics in England had



Caproni triplane, one of the largest types so far built and a possible overseas flier.

LONDON, Dec. 7.—Germany, in her "Frenzied Propaganda," just before the armistice gave the Allies valuable information, which she will probably regret bitterly when she comes to pay the bill for submarine atrocities. This is a map issued by official German sources, showing the ships the Boche claims to have sunk in the twelve months ended February 1, 1919. Ships sunk by mines

and by U-boats before February 1, 1917, it is stated, are not on the chart. The chart, therefore, represents from the German point of view, with probable exaggeration, result of one year's unrestrained U-boat warfare in the northern theatre.

The little specks on the map signify ships sunk by submarines irrespective of size, and the note attached states that hundreds of thousands of tons of steel and other supplies have been sunk, which were required for munitions factories.

The importance of this chart to the Allies is great. It cannot be doubted that Germany will be required in the conditions of peace to replace the allied shipping which she has so practically destroyed. So far as her existing tonnage of merchant ships will meet

the claim, it most likely will have to be handed over in part indemnification. There will, however, be a large deficit which may have to be paid for in cash.

As there is likely to be some controversy as to the exact amount of shipping to be made good, this map furnished by Germany will probably be put in evidence as a document which will convict Germany out of her own mouth.

The big airplane inventors, of whom there are in the United States not more than five or six, all have fine experimental laboratories where are planes in miniature, little engines, little baby air tunnels run by baby Liberty motors. These have devices which color the air currents with powdered pigments, then drive the air through at the same velocity as in the big tunnels, then photograph the direction of the currents.

Therefore when you take up a scientific book on aeronautics and see curved lines above the planes showing a vacuum and curved lines below the wings showing the angle at which the air hits the flat surface, and when you see it all worked out by a mathematical formula, don't ask yourself, Does the real experience conform to the mathematics? It does, only you have the cart before the horse. The big inventor, like Curtiss, works the thing out experimentally, first on his own experience, then in his baby laboratory, then in his big experimental plant, then out in his ship, then up in midheaven at the wheel.

Having established the facts experimentally so that he knows they are true, he then turns the facts over to the mathematicians and engineers to demonstrate scientifically; for the world is a One-ness, as the mountain climber knows, and what is true in physical fact must also be true mathematically. Nature doesn't swerve from her true curves. It is we, fool humans, only, who are guilty of that folly. What is true 10,000 feet up in midair is true on a mathematician's slate. That is why we shall ultimately be able to chart the air currents as we have charted the ocean currents.

What this boat has accomplished in the war or how many thousand miles it has flown the navy will not permit to be told for a few weeks yet, but some of its other possibilities and exploits I shall tell in another article. Granted we have spent as much on airplane experimentation in the war as on Panama. In 1908 we thought thirty-nine miles an hour an unholy speed for a boat, and sometimes it would fly and sometimes it would flop. To-day we can fly 160 miles an hour and cover 3,000 miles without pausing to give the beast a pastured drink.

We have paid the price; but hasn't it been worth it?